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Job No.: CTCE/BBMP/W.No.09/RS/WMM/Gradation/2015-16 19.09.2015

GRADATION FOR WMM
MORTH TABLE-400-11

Client : **Asst. Executive Engineer,** Vidyaranyapura Sub Division, BBMP, Bangalore.

Agency : **Mr.R. Satheesh,** Contractor, Bangalore.

Name of Work : Reconstruction of vidyaranyapura sahakarnagara via GKVK Double road near canara Bank Layout in Ward No.09, Vidyaranyapura Sub Division, BBMP, Bangalore.

Reference : EE/BTP/BBMP/E-PMT/108/2015-16 Dated: 18.09.2015

Date of Testing : 19.09.2015

Material : WMM

Sample Location : WMM Mix Plant Oven Dry Wt (gm): 7865

Is Sieve Size in mm	Weight Retained (gm)	Cumulative Weight Retained (gm)	Cumulative % of Retained	Cumulative % of Passing	Spec.Limits
53	0	0	0	100	100
45	145	145	1.8	98.2	95-100
22.4	2815	2960	37.6	62.4	60-80
11.2	1315	4275	54.4	45.6	40-60
4.75	1225	5500	69.9	30.1	25-40
2.36	940	6440	81.9	18.1	15-30
0.600	625	7065	89.8	10.2	8-22
0.075	600	7665	97.5	2.5	0-6

Note:

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Job No.: CTCE/BBMP/W.No.09/RS/WMM/Gradation/2015-16

20.09.2015

GRADATION FOR WMM
MORTH TABLE-400-11

Client : **Asst. Executive Engineer,** Vidyaranyapura Sub Division, BBMP, Bangalore.

Agency : **Mr.R. Satheesh,** Contractor, Bangalore.

Name of Work : Reconstruction of vidyaranyapura sahakarnagara via GKVK Double road near canara Bank Layout in Ward No.09, Vidyaranyapura Sub Division, BBMP, Bangalore.

Reference : EE/BTP/BBMP/E-PMT/108/2015-16 Dated: 18.09.2015

Date of Testing : 20.09.2015

Material : WMM

Sample Location : WMM Mix Plant

Oven Dry Wt (gm): 7965

Is Sieve Size in mm	Weight Retained (gm)	Cumulative Weight Retained (gm)	Cumulative % of Retained	Cumulative % of Passing	Spec.Limits
53	0	0	0	100	100
45	160	160	2.0	98.0	95-100
22.4	2545	2705	34.0	66.0	60-80
11.2	1400	4105	51.5	48.5	40-60
4.75	1210	5315	66.7	33.3	25-40
2.36	845	6160	77.3	22.7	15-30
0.600	910	7070	88.8	11.2	8-22
0.075	700	7770	97.6	2.4	0-8

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Job No.: CTCE/BBMP/W.No.09/RS/WMM/Gradation/2015-16

22.09.2015

GRADATION FOR WMM
MORTH TABLE-400-11

Client : **Asst. Executive Engineer,** Vidyaranyapura Sub Division, BBMP, Bangalore.

Agency : **Mr.R. Satheesh,** Contractor, Bangalore.

Name of Work : Reconstruction of vidyaranyapura sahakarnagara via GKVK Double road near canara Bank Layout in Ward No.09, Vidyaranyapura Sub Division, BBMP, Bangalore.

Reference : EE/BTP/BBMP/E-PMT/108/2015-16 Dated: 18.09.2015

Date of Testing : 22.09.2015

Material : WMM

Sample Location : WMM Mix Plant

Oven Dry Wt (gm): 7750

Is Sieve Size in mm	Weight Retained (gm)	Cumulative Weight Retained (gm)	Cumulative % of Retained	Cumulative % of Passing	Spec.Limits
53	0	0	0	100	100
45	195	195	2.5	97.5	95-100
22.4	2695	2890	37.3	62.7	60-80
11.2	1525	4415	57.0	43.0	40-60
4.75	1315	5730	73.9	26.1	25-40
2.36	450	6180	79.7	20.3	15-30
0.600	550	6730	86.8	13.2	8-22
0.075	620	7350	94.8	5.2	0-8

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Job No.: CTCE/BBMP/W.No.09/RS/BM/Bitumen/2015-16 24.09.2015

BITUMEN CONTENT AND GRADATION DETERMINATION OF BITUMINOUS MACADAM MIX

As per IS2386 and IRC:SP:11-1984

CLIENT	**Asst. Executive Engineer,** Vidyaranyapura Sub Division, BBMP, Bangalore.
AGENCY	**Mr.R. Satheesh,** Contractor, Bangalore.
NAME OF THE WORK	Reconstruction of vidyaranyapura sahakarnagara via GKVK Double road near canara Bank Layout in Ward No.09, Vidyaranyapura Sub Division, BBMP, Bangalore.
REFERENCE	EE/BTP/BBMP/E-PMT/108/2015-16 Dated: 18.09.2015
SAMPLE I/D	Roads in canara Bank Layout in Ward No.09, BBMP, Bangalore.
DATE OF TESTING	24.09.2015

BITUMEN CONTENT DETERMINATION

Description	Trail 1	Trail 2
1. Weight of Mixture before Test, g	500	500
2. Weight of Mixture after Test, g	482.5	482
3. Weight of Asphalt and Mineral matter Extracted, g	-	-
4. Weight of Mineral Matter, g.	-	-
5. Weight of Ash, g		
6. Weight of Bitumen Extracted, g. (corrected)	17.5	18.00
7. Bitumen content in %	3.50	3.60
8. Average	**3.55**	

GRADATION AFTER EXTRACTION

SIEVE SIZE	Trail 1				JOBMIX
mm	Weight Retained, gm	% Retained	%Cummulative Retained	% Passing	Gradation
26.5	0	0	0	100	100
19	25.6	5.31	5.31	94.69	90-100
13.2	162.3	33.64	38.94	61.06	56-88
4.75	176.3	36.54	75.48	24.52	16-36
2.36	46.32	9.60	85.08	14.92	4-19
0.3	36.25	7.51	92.59	7.41	2-10
0.075	15.23	3.16	95.75	4.25	0-8

SIEVE SIZE	Trail 2				JOBMIX
mm	Weight Retained, gm	% Retained	%Cummulative Retained	% Passing	Gradation
26.5	0	0	0	100	100
19	25.65	5.13	5.13	94.87	90-100
13.2	152.3	30.46	35.59	64.41	56-88
4.75	170.6	34.12	69.71	30.29	16-36
2.36	82.3	16.46	86.17	13.83	4-19
0.3	30.26	6.05	92.22	7.78	2-10
0.075	11.98	2.40	94.62	5.38	0-8

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Job No.: CTCE/BBMP/W.No.09/RS/BM/Bitumen/2015-16 26.09.2015

BITUMEN CONTENT AND GRADATION DETERMINATION OF BITUMINOUS MACADAM MIX

As per IS2386 and IRC:SP:11-1984

CLIENT	**Asst. Executive Engineer,** Vidyaranyapura Sub Division, BBMP, Bangalore.
AGENCY	**Mr.R. Satheesh,** Contractor, Bangalore.
NAME OF THE WORK	Reconstruction of vidyaranyapura sahakarnagara via GKVK Double road near canara Bank Layout in Ward No.09, Vidyaranyapura Sub Division, BBMP, Bangalore.
REFERENCE	EE/BTP/BBMP/E-PMT/108/2015-16 Dated: 18.09.2015
SAMPLE I/D	Roads in canara Bank Layout in Ward No.09, BBMP, Bangalore.
DATE OF TESTING	26.09.2015

BITUMEN CONTENT DETERMINATION

Description	Trail 1	Trail 2
1. Weight of Mixture before Test, g	500	500
2. Weight of Mixture after Test, g	483	482
3. Weight of Asphalt and Mineral matter Extracted, g	-	-
4. Weight of Mineral Matter, g.	-	-
5. Weight of Ash, g		
6. Weight of Bitumen Extracted, g. (corrected)	17	18.00
7. Bitumen content in %	3.40	3.60
8. Average	**3.50**	

GRADATION AFTER EXTRACTION

SIEVE SIZE	Trail 1				JOBMIX
mm	Weight Retained, gm	% Retained	%Cummulative Retained	% Passing	Gradation
26.5	0	0	0	100	100
19	24.65	5.10	5.10	94.90	90-100
13.2	160.5	33.23	38.33	61.67	56-88
4.75	178.3	36.92	75.25	24.75	16-36
2.36	45.65	9.45	84.70	15.30	4-19
0.3	35.62	7.37	92.07	7.93	2-10
0.075	18.25	3.78	95.85	4.15	0-8

SIEVE SIZE	Trail 2				JOBMIX
mm	Weight Retained, gm	% Retained	%Cummulative Retained	% Passing	Gradation
26.5	0	0	0	100	100
19	29.56	5.91	5.91	94.09	90-100
13.2	153.2	30.64	36.55	63.45	56-88
4.75	173.2	34.64	71.19	28.81	16-36
2.36	85.65	17.13	88.32	11.68	4-19
0.3	31.22	6.24	94.57	5.43	2-10
0.075	12.32	2.46	97.03	2.97	0-8

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Job No: CTCE/BBMP/W.No.09/RS/BC/Bitumen/2015-16 27.09.2015

BITUMEN CONTENT AND GRADATION DETERMINATION OF BITUMINOUS CONCRETE

As per IS2386 and IRC:SP:11-1984

CLIENT	**Asst. Executive Engineer,** Vidyaranyapura Sub Division, BBMP, Bangalore.
AGENCY	**Mr.R. Satheesh,** Contractor, Bangalore.
NAME OF THE WORK	Reconstruction of vidyaranyapura sahakarnagara via GKVK Double road near canara Bank Layout in Ward No.09, Vidyaranyapura Sub Division, BBMP, Bangalore.
REFERENCE	EE/BTP/BBMP/E-PMT/108/2015-16 Dated: 18.09.2015
SAMPLE I/D	Roads in canara Bank Layout in Ward No.09, BBMP, Bangalore.
DATE OF TESTING	27.09.2015

BITUMEN CONTENT DETERMINATION

Description	Sample 1	Sample 2
1. Weight of Mixture before Test, g	500	500
2. Weight of Mixture after Test, g	475	474
3. Weight of Asphalt and Mineral matter Extracted, g	25	26
4. Weight of Mineral Matter, g.	-	-
5. Weight of Ash, g	-	-
6. Weight of Bitumen Extracted, g. (corrected)	25	26
7. Bitumen content in %	5.00	5.20
8. Average	**5.10**	

GRADATION AFTER EXTRACTION

TABLE - 1

SIEVE SIZE	Percent Passing, %		JOBMIX
mm	Sample 1	Sample 2	Gradation
19	100.00	100.00	100
13.2	82.32	84.56	79-100
9.5	75.65	75.32	70-88
4.75	56.32	61.25	53-71
2.36	45.21	45.32	42-58
1.18	39.65	36.25	34-48
0.6	32.22	29.66	26-38
0.3	22.65	25.32	18-28
0.15	16.35	18.32	12-20
0.075	5.86	6.58	4-10

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Job No: CTCE/BBMP/W.No.09/RS/BC/Bitumen/2015-16 28.09.2015

BITUMEN CONTENT AND GRADATION DETERMINATION OF BITUMINOUS CONCRETE

As per IS2386 and IRC:SP:11-1984

CLIENT	**Asst. Executive Engineer,** Vidyaranyapura Sub Division, BBMP, Bangalore.
AGENCY	**Mr.R. Satheesh,** Contractor, Bangalore.
NAME OF THE WORK	Reconstruction of vidyaranyapura sahakarnagara via GKVK Double road near canara Bank Layout in Ward No.09, Vidyaranyapura Sub Division, BBMP, Bangalore.
REFERENCE	EE/BTP/BBMP/E-PMT/108/2015-16 Dated: 18.09.2015
SAMPLE I/D	Roads in canara Bank Layout in Ward No.09, BBMP, Bangalore.
DATE OF TESTING	28.09.2015

BITUMEN CONTENT DETERMINATION

Description	Sample 1	Sample 2
1. Weight of Mixture before Test, g	500	500
2. Weight of Mixture after Test, g	474.5	474
3. Weight of Asphalt and Mineral matter Extracted, g	25.5	26
4. Weight of Mineral Matter, g.	-	-
5. Weight of Ash, g	-	-
6. Weight of Bitumen Extracted, g. (corrected)	25.5	26
7. Bitumen content in %	5.10	5.20
8. Average	**5.15**	

GRADATION AFTER EXTRACTION

TABLE - 1

SIEVE SIZE	Percent Passing, %		JOBMIX
mm	Sample 1	Sample 2	Gradation
19	100.00	100.00	100
13.2	85.65	82.32	79-100
9.5	76.36	74.25	70-88
4.75	59.65	62.32	53-71
2.36	49.65	52.32	42-58
1.18	40.25	42.25	34-48
0.6	33.26	36.25	26-38
0.3	23.51	25.62	18-28
0.15	15.32	17.20	12-20
0.075	6.53	7.25	4-10

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